

REMARKS

Reconsideration of this application is respectfully requested. Applicant believes that consideration of this amendment is proper because they have attempted to comply with every requirement expressly set forth in the previous Office Action dated October 19, 2012 (Paper No. 20110930-1) and believe the application is now in condition for allowance.

The outstanding Office Action is a final action. A Request for Continued Examination is being filed herewith to make entry of this response a matter of right.

Claim 1 has been amended to recite that the particles are “partially embedded” in the core surface. Support for embedding of the particles is found on page 3, lines 6-7. Figs. 2-4 also clearly show that the particles are not fully embedded into the core, but partially extend above the surface of the core.

Claims 1 – 9 and 15 – 16 stand rejected as being unpatentable under 35 U.S.C. § 103(a) over Kahara et al. (U.S. Patent No. 5,753,871) in view of Baig (U.S. Patent Application Publication No. 2002/0139611) and Forry (U.S. Patent No. 4,585,685). The Applicants respectfully traverse this rejection as no *prima facie* case of obviousness has been established. The cited prior art fails to recite every feature of the amended claims.

As argued previously, and as admitted by the Examiner, neither the Kahara nor Baig references disclose aggregate particles that are pressed into the front surface of

the core of the acoustical tile. Applicants assert that this language describes a product structure that differs from that of Kahara in view of Baig. Referring to Fig. 1 of the present invention, deposition of the particles on the surface of the wet core and pressing of the particles into the core surface results in particles that are at least partially surrounded by the wet starch gel/mineral fiber composition. As the composition dries, it molds itself to the embedded portion of the particle bonding the particle tightly in the core surface. Baig suggests only adding particles into the slurry from which the core of the tiles are made. In this case, the particles are completely coated with slurry and will be submerged under the surface of the core. If, as suggested in the Office Action, some of the particles are inherently at or very near the surface, the perlite would not be exposed because, having been combined in the slurry, the slurry would make a continuous covering the surface of the perlite. Thus, this is a very different structure than that described by Applicants' claims.

Further, Baig teaches that the core is covered with a fiber-rich surface layer. Even if expanded perlite particles in the core were exposed at the surface, they would be covered by the application of the surface layer.

Claim 1 has been amended to feature particles that are "partially embedded" in the surface of the core. This is not suggested by Baig in any way. Baig states that the outer or "fiber-rich" layer is pressed to remove some of the water. Col. 4, lines 26-34. Application of sufficient pressure to squeeze out some of the water would result in fully embedding surface particles into the core layer underneath the surface

layer. None of the particles in the slurry would extend at least partially above the dual-layer core.

The Office Action states that the front surface of Baig is coated with aggregate particles as shown in paragraph [0061]. This, too, fails to disclose the teachings of the instant claims. Paragraph [0061], reproduced below, discloses only

[0061] The mineral wool rich surface was coated with dry calcium carbonate particles. The coarse calcium carbonate was spray coated at a coverage of about 38 gm./ft.². Prior to applying the calcium carbonate, the tiles were painted with standard acoustical tile paint. The paint was applied with a roll coat and then with a flow coat and dried. After applying the calcium carbonate, the tiles were spray painted with a standard acoustical tile paint and were dried.

embedding of calcium carbonate particles in multiple layers of paint on the core surface. Prior to application, the tiles were painted, completely separating the particles from the tile core. Two additional coats of paint, a roll coat and a flow coat, were applied prior to application of the calcium carbonate particles. A final coat of paint was administered on top of the calcium carbonate particles. There is no embedding, either partially or fully, of the particles in the tile surface, only in the layers of paint.

One skilled in the art, looking at the examples of Baig, would not be motivated or find it obvious to partially embed particles into the product surface. The embodiments without the paint-embedded particles have improved sound absorption. When the calcium carbonate was embedded in the paint, the sound absorption was diminished. This example has the lowest NRC of any of the examples. In the response to arguments, the Office Action argues that the invention of Baig as a whole teaches

acoustic ceiling tiles of improved sound absorption. Applicant agrees with this statement, but not how it is applied. This teaching is not applied to the invention as a whole. The whole invention of Baig includes a dual-layer structure comprising a low mineral fiber content base mat and a mineral-wool rich overlay. However, the claimed invention has no fiber-rich surface layer as taught by Baig. If the Office dissects the invention of Baig, utilizing only the parts applicable to the claimed invention, then the teachings of Baig “as a whole” cannot be relied upon. One skilled in the art would likely reason that if the tile has a higher NRC without the particulate coating, then the particulate coating is detrimental to the acoustical properties of the tile.

Regarding Forry, the Office Action argues that Forry does not preclude the use of perforation or fissuring of the ceiling tile to render the ceiling tile acoustically porous. Although this may be true, it does not address the admitted problem of Forry that the facing materials cannot be adequately adhered to the board in the wet state. And even if an artisan used perforation or fissuring to achieve additional porosity, it does not change the fact that Forry used these passages to differentiate his material over that of a wet-laid process. If Forry states that the use of a dry-formed web produces a composition that is different than that of a wet-laid process, how can the Examiner state differently?

Regarding the motivation to combine the references, the Office Action vaguely states, “[p]er the above stated U.S.C. § 103 rejections, the motivation of the combination of reference (sic) is both to enhance acoustic properties and to create a non-friable layer.” This statement does not overcome the teaching of Forry that facing

materials, such as particulates, cannot be adequately adhered to the core in a wet state. Embedding of particles in the dry-formed web of Forry would not teach or suggest how to embed aggregate particles in a wet core, particularly in view of Forry's teaching that this cannot be done.

The objection to the phrase "pressed into said surface prior to drying" is moot in light to the amendment of claim 1. This phrase has been removed.

Regarding claims 6-9, although Baig discloses the NRC of its dual-layer ceiling tile, it fails to suggest the NRC value for a single-layer tile. As presently claimed, the instant invention cannot include the fiber-rich surface layer of Baig because the aggregate particles are on the finished surface of the tile, which is also the surface of the core. Support for this amendment is found in the paragraph beginning on page 3, line 9 and in original claim 1. If the fiber-rich surface layer were applied, then the aggregate would not be on the surface of the ceiling tile, it would be buried under the fiber-rich layer.

Applicant has shown that no prima facie case of obviousness has been established. The prior art fails to disclose aggregate particles embedded into a front surface of the core of an acoustical tile to make the same structure as taught by Applicant. There is no motivation to press the aggregate of Forry into the wet-laid tile of Baig or Kahara. Forry teaches away from use of wet-laid processes and Baig fails to teach any benefit of using particulates on the surface of a ceiling tile. Applicant respectfully requests that this rejection be withdrawn and the subject claims be allowed to issue.

Claims 1 through 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cotts (U.S. Patent No. 3,184,372) in view of Baig and Forry. Applicant respectfully traverses this rejection. The arguments asserted above with regard to Baig and Forry are reasserted here. As admitted by the Examiner, Cotts also fails to disclose a front surface of the ceiling tile coated with aggregate particles.

None of the references, either individually or in combination, suggests partially embedding the particles on the surface of the core (which is also the surface of the tile). Cotts uses no aggregate particles at all. Baig suggests adding the particles to the core slurry so that they are coated with the binder material, then covers the core with a fiber-rich surface layer. There is also a suggestion in Baig that particles be embedded in layers of paint. Finally, Forry discloses embedding particles in a dry-formed web because the particles cannot be made to adhere to a wet-laid tile. There is no disclosure of partially embedding particles in the wet-laid tile of the present claims.

Further, there is no motivation to combine Forry with Cotts and Baig for reasons discussed above. Forry teaches against the present claims stating that adequate adhesion cannot be achieved by a wet-laid product. Therefore, no *prima facie* case of obviousness has been established. In light of the foregoing, Applicant respectfully submits that Cotts, Baig and Forry alone or in combination do not teach, disclose or suggest the invention claimed by the Applicant. Reconsideration and allowance of the claims is respectfully requested.

By the above arguments and amendments, Applicants believe that they have complied with all requirements expressly set forth in the pending Office Action. Issuance of a Notice of Allowance on the remaining allowed claims is respectfully requested. Should the Examiner discover there are remaining issues which may be resolved by a telephone interview, she is invited to contact Applicants' undersigned attorney at the telephone number listed below.

If a Petition under 37 C.F.R. §1.136(a) for an extension of time for response is required to make the attached response timely, it is hereby petitioned under 37 C.F.R. §1.136(a) for an extension of time for response in the above-identified application for the period required to make the attached response timely. The Commissioner is hereby authorized to charge fees which may be required to this application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069.

Respectfully submitted,
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